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ATTITUDE CHANGE AS A RESULT OF
T-GROUP PARTICIPATION

by

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A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Attitude Change As a Result of T-Group Participation" submitted by Oswald Huebner in partial fulfilment of the requirements for the degree of Master of Business Administration.

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Date September 9, 1971

ABSTRACT

In recent years, t-group training has become a popular management development method to solve organizational problems of intra- and interpersonal and intra- and intergroup conflicts. In order to solve organizational problems of this nature, the attitudes of individuals towards themselves and others must change.

T-group goals strongly imply attitude change toward self and others. The object of this study was to determine empirically if t-group participation results in such attitude change. It was hypothesised that attitudes toward self and others would change as a result of t-group training. It was also hypothesised that attitudes would change toward greater acceptance of self and others as a result of t-group training. Bergers' (1952) attitude scale, which was designed to measure attitudes toward self and others, was used to measure change.

Thirty university students in three t-groups were asked to complete the attitude scale before and after training. Twenty-five completed both the before and after test and were used as the experimental group. A control group of thirteen university students was also asked to complete the before and after test during the same time period.

The t-test was used to determine statistically whether the hypotheses were confirmed. Only mean change was tested.

The general results showed that absolute change in attitudes toward self and others did occur as a result of t-group participation, but the change did not occur in either a predictable negative or positive direction.

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CHAPTER I

INTRODUCTION

Purpose of the Study

According to Campbell and Dunnette (1968) and House (1967), in their reviews of empirical literature, t-groups have become a popular management-development device and demand for t-groups training is high. Dunnette and Campbell (1968, p.3) state that organizational problems, specifically in the area of interpersonal perception, interpersonal interaction and inter- and intragroup conflict, are claimed by t-group advocates to be solvable through techniques of t-group training. As a result researchers have attempted to test these claims and in general have attempted to determine the possible effects of t-group training. Among the many relevant research projects related to t-group effects, some have attempted to determine the effect of t-group training on attitudes. Dunnette and Campbell (1968, p.9) state that discovering the attitudinal effects of t-group training is important because "several of the goals of t-group training strongly imply the necessity of marked attitudinal change."

The purpose of this study will be an attempt to determine, if in fact, t-groups produce attitude change. Campbell and Dunnette (1968, p. 95), state that there is a particular scarcity of research relating t-group participation to attitude change, and find this rather disappointing and hard to understand, particularly in light of the fact that other areas of management-development research have relied heavily on attitude measures as criteria. More specifically, since the goals of t-group training include increased selfawareness and self-

insight and increased sensitivity to the behavior of others (Campbell and Dunnette, 1968, p. 75), the purpose of this study will be an attempt to determine empirically whether t-group participation results in attitude change toward self and others on the part of the participants.

An Overview of the Study

The remainder of Chapter I briefly outlines the t-group process and goals that will serve as a definition in later sections.

In Chapter II a theoretical framework for the empirical study is developed by first exploring the nature of attitudes and attempting to explain how an individual may develop attitudes. A t-group learning model is then used to illustrate the conditions which exist in a t-group learning process that may be conducive to attitude change. A survey of literature relevant to attitude change as a result of t-group participation follows. As a final step to the theoretical framework, a hypothesis for attitude change as a result of t-group participation is proposed.

Chapter III deals with the methodology of the empirical work. The measurement of attitudes will be discussed with particular reference to the attitude questionnaire used in the study. A description of the sample for this study and the method of data collection will follow.

The final chapters will give the results of the data analysis and conclusions and possible limitations of the study.

T-Group Goals and Methods

Since this study will make frequent reference to t-group training,

it may be useful to outline, briefly, general t-group methods and goals which will serve as a working definition for this study.¹

Although there are various types of t-groups that may differ in methods, t-groups generally share some common characteristics. The basic structure of t-group learning, or sensitivity training or laboratory education as it is also known, is the small face-to-face group. The group is unstructured in the sense that no activities or topics for discussion are planned. A trainer is usually present but he assumes no leadership role.

The focus in the t-group is on the "here and now", that is, the participants observe their own behavior and that of others as this behavior takes place in the group. Participants share these observations with other members by expressing the feelings and emotions they are experiencing.

The success of the t-group usually depends on the process of feedback. Feedback is the information a participant receives from members of the group in response to his own behavior. Feedback is the primary process by which the participants learn. A more detailed description of the t-group learning process is given in Chapter II when a t-group learning model is reviewed.

A lengthy list of goals for t-group training could be developed but for the purpose of this study, t-group goals are best described

¹Many books and articles on t-groups have been written to which the interested reader may refer for more detailed information. For example, the reader may refer to Argyris (1964), Campbell and Dunnette (1968), Schein and Bennis (1965), and House (1967) for information on t-group goals and methods.

briefly, as stated by Argyris (1964, p.63). Argyris (1964, p.63) described the t-group as "a group experience designed to provide maximum possible opportunity for the individuals to expose their behavior, give and receive feedback, experiment with new behavior, and develop everlasting awareness and acceptance of self and others. The t-group, when effective, also provides individuals with the opportunity to learn the nature of effective group functioning. They are able to learn how to develop a group that achieves specific goals with minimum possible cost."

The t-group goal of developing acceptance of self and others is the major focus of this study and will be described in more detail in the following chapter.

CHAPTER II

THEORETICAL FRAMEWORK OF THE STUDY

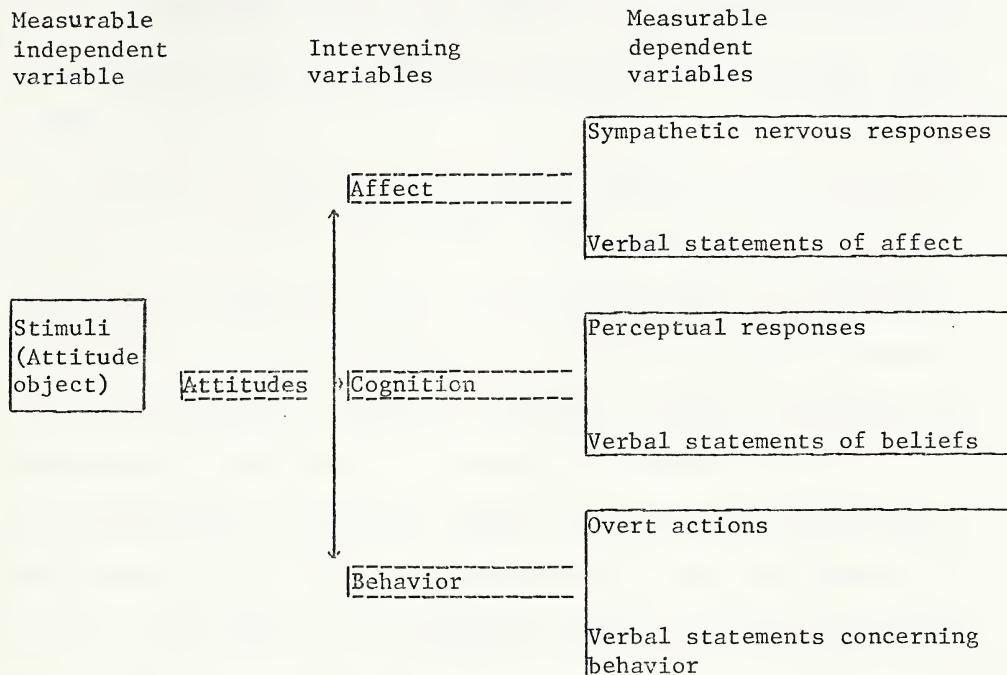
The Nature of Attitudes

In order to provide a framework which establishes relationships relevant to both the theory and measurement of attitudes, a definition of attitudes will be cited as illustrative of common usage of the term.

Krech, Crutchfield, and Ballachey (1962, p.139), state that "as the individual develops, his cognitions, feelings, and action tendencies with respect to the various objects in his world become organized into enduring systems called attitudes." The interrelatedness of the three components mentioned in the quotation, is emphasized in their following definition of attitude: attitudes are "an enduring system of three components centering about a single object: The beliefs about the object - the cognitive component; the affect connected with the object - the feeling component; and the disposition to take action with respect to the object - the action tendency component" (Krech, Crutchfield, and Ballachey, 1962, p.146).

Rosenberg and Hovland (1960, p.1), in an attempt to formulate an operational definition of attitudes, similarly defined attitudes as "predispositions to respond in a particular way toward a specific class of objects. The type of responses that are commonly used as 'indices' of attitudes fall in three major categories: cognitive, affective, and behavioral." The following is a schematic conception of attitudes, developed by Rosenberg and Hovland (1960, p.3) which shows the relationships among the three major "indices" or components

of attitudes and their relevancy to the measurement of attitudes.



The affective or feeling component of an attitude toward an object refers to the emotions connected with the object. An individual likes or dislikes an object; he finds the object pleasing or displeasing (Krech, Crutchfield, and Ballachey, 1960, p.140).

The cognitive component of an attitude refers to the beliefs the individual has about the object. An individual may evaluate the object as being good or bad, desirable or undesirable, favorable or unfavorable, appropriate or unappropriate (Krech, Crutchfield, and Ballachey, 1960, p.140).

The behavioral or action tendency component of an attitude refers to the behavioral readiness associated with the attitude. It refers to

the disposition to act toward the object. A positive attitude toward an object may dispose the individual to help or support or reward the object. A negative attitude may dispose the individual to punish or harm or destroy the object (Krech, Crutchfield, and Ballachey, 1960, p.140).

Although at first glance, it may be tempting to use attitudes as predictors of behavior, Peak (1969, p.161), warns that "an attitude should not be expected to serve as an adequate basis for predicting all behavior, since it is rarely more than one of several components of motive structure." Therefore one cannot necessarily determine the attitude of an individual by observing his behavior.

In reference to attitudes towards self and others, individuals form conceptions of themselves and generalized others as persons or "objects" and though their experiences develop attitudes toward these objects.

As an example, an individual may, as a result of his experiences, have learned to dislike certain others (the affective component), and believes these others to be bad or undesirable (the cognitive component) and therefore may try to avoid the certain others (the behavioral component). The individual then has an unfavorable attitude towards the certain others.

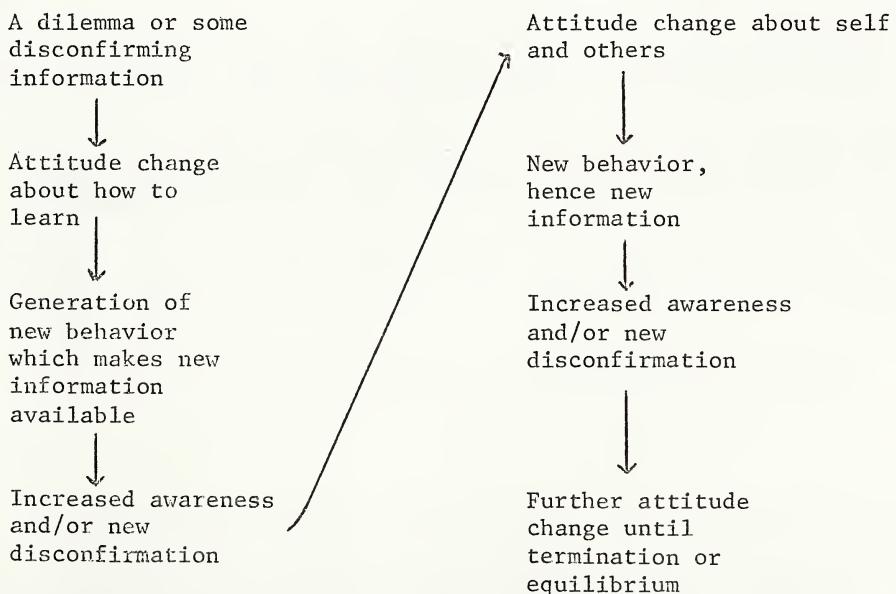
In the literature attitudes toward self and others are most commonly referred to as degrees of self-acceptance of others (Shaw and Wright, 1967, p.428). Therefore the t-group goal of developing self-acceptance and acceptance of others may be considered as being attitude change toward self and others.

Attitude Change: A T-Group Learning Model

It will not be the task of this paper to survey literature relevant to the many theories of attitude change that now exist but rather to develop a framework which will attempt to explain why attitudes toward self and others may change as a result of t-group participation.²

In order to develop a framework which attempts to explain why attitudes toward self and others may change as a result of t-group participation, Schein and Bennis' t-group learning model is briefly reviewed (Schein and Bennis, 1965).

Schein and Bennis view the t-group process as a learning cycle. The learning cycle is a series of interdependent steps diagramed as follows:



²For various theories of attitude change, the interested reader may see, for example, Wagner and Sherwood (1964), Kiesler, Collins, and Miller (1969), and Katz (1960).

Basically, this learning cycle states that learning starts with a dilemma or with disconfirming information that the individual receives about himself. Usually such information comes to the individual early in his t-group experience when he obtains feedback that not all is right in his relationship with others. In order to learn from this information the individual must change his attitudes about the learning process itself. He must accept the feedback and value the data as being helpful to himself. The individual must also be able to reveal his own feelings and reactions in order to facilitate the communication process. If the individual and other group members accept this learning process, new behavior is generated in the sense that group members will begin to reveal their reactions about each other and therefore generate data which others need in order to increase their awareness of what is going on. This new data now serves as information which may again disconfirm other attitudes which the individual has towards himself, others, and the group. New attitude change may then begin about self, others, and the group. This change will then again result in new behavior which serves as new data and information input for others. The process continues until the t-group is terminated or until new behavior no longer proves to be disconfirmatory information for the members.

Schein and Bennis (1965, p. 275), go on to state that attitude change is the central component of the learning process. Attitude change must be understood in order to understand the learning process. The following model by Schein and Bennis (1965), is an attempt to explain how attitudes can change as a result of the t-group learning

process. It consists of the following three stages:

Stage 1. Unfreezing

1. Lack of confirmation or disconfirmation
2. Induction of guilt-anxiety
3. Creation of psychological safety by reduction of threat or removal of barriers to change

Stage 2. Changing

1. Scanning the interpersonal environment
2. Identifying with model

Stage 3. Refreezing

1. Personal - integrating new responses into the rest of the personality and attitude system
2. Relational - intergrating new responses into ongoing significant relationships

(Schein and Bennis 1965, p. 275)

1. Unfreezing. According to Schein and Bennis (1965, p. 275) attitude change must begin with the unfreezing of present attitudes and the t-group generates powerful unfreezing forces which are generally not found in other settings.

Unfreezing in the t-group occurs when the individual through the process of feedback receives some information about himself which is not in accord with his image of himself. Such disconfirming information may leave him feeling anxious or guilty. In order to protect his self-image, the individuals' ego-defensive attitudes are aroused. If change is to occur, the individual must accept the t-group method as a learning process and not feel threatened. If he finds the t-group method threatening, he may cling more tenaciously to his emotionally held beliefs. The increase of threat is the very condition which will feed ego-defensive behavior (Katz, 1960, p. 182). The individual will

probably not drop his defenses until he feels that others value him enough to help him to change and to protect him during the painful process of change.

Usually in the t-group process a climate of trust develops as the members realize that the group will act in a supportive way. As a result the individual will become honest and open about his observations and feelings.

2. Changing. If the individual becomes adequately unfrozen, and feels safe within the group, he begins to pay attention to new information about himself and his relationship to others. He may have some degree of dissatisfaction with himself in the group process. As a result, he selects information relevant to his own change and growth needs, or identifies himself with a model of the type of person he would like to be.

3. Refreezing. Refreezing is similar to the unfreezing process. The individual learns what impact his new attitudes and behavior has on others and to the extent that the learner values the reaction of others, he will either abandon or accept his new attitudes and behavior. Not only is the stability of new attitudes a function of whether they are reinforced or confirmed but they must also fit in with the individual's other attitudes and personality dimensions.

A Survey of Literature Relevant to Attitude Change Toward Self and Others as a Result of T-Group Participation

A survey of literature on attitude change as a result of t-group participation follows in order to determine what kind of empirical

studies have been done in this area and what kind of results have been obtained. On the basis of this survey of literature and on the basis of Schein and Bennis' (1965) t-group learning model some predictions about t-groups and attitude change will be made.

In the introduction of this study, it was pointed out that there have been relatively few studies relating t-group participation to attitude change. When the search for studies is limited to attitude change toward self and others, the scarcity becomes even more evident. The following t-group studies summarized below, are relevant to the topic of t-group participation and attitude change toward self and others.

A. Studies Which Support the Theory that Attitudes Towards Self and Others Change as a Result of T-Group Participation

Burke and Bennis (1961) investigated the possibility of perceptual changes of self and others in members of human relations training groups (t-groups) as they met over a period of three weeks. Eighty-four participants, of various demographic characteristics, from six National Training Laboratory groups were asked to complete the Group Semantic Differential (G.S.D.) test in the first week and the last week of their t-group training. The G.S.D. test consisted of 19 bipolar, adjectival rating scales to describe three concepts (a) "The way I actually am in this t-group", (b) "The way I would like to be in this group", and (c) "Each of the other people in this group". The results showed that changes were in the direction of closer agreement between real self and ideal self ratings and toward subjects

seeing themselves more nearly as others described them. The changes were statistically significant on all rating scales for all groups combined. No control group was used. It was suggested that further research is necessary to clarify differences between groups taking part in a generally similar training experience.

Harrison (1966), used Kelley's Role Repertory Test to measure changes in concept preference in interpersonal perception of 115 persons, of various backgrounds, participating in a sensitivity-training laboratory conducted by the National Training Laboratories. The subjects were given the test before, three weeks after, and three months after participation in NTL training. The tests ask the describer to respond to triads of individuals by selecting a word or phrase that discriminates one member of the triad from the other two and then to give its opposite. Harrison found significant increases in the frequency of subjects' use of interpersonal concepts as compared to concrete-instrumental ones to describe associates three months after training, but no short-term (three weeks) differences. No control group was used.

Oshry and Harrison (1966), attempted to determine whether the inward orientation of t-group participants during sensitivity training, ever turns itself back outwards and have significance for the participant's work world. They asked 46 middle managers from various companies to evaluate some possible causes of unresolved work problems and the resources available for dealing with them, before and after they participated in a two-week NTL program. The evaluation consisted of 45 check-list items which listed a number of causes and possible

ways of dealing with problems. Oshry and Harrison found that after training, the managers viewed their work problems as less impersonal and saw more distinct connections between getting the work done and the satisfaction of interpersonal needs than before training. The managers also saw themselves as being the significant cause or contributor to their own work problem, more often after training than before training. The managers, however, failed to see how these new perceptions of problem causes could be translated into action. Again, as in the previous two studies cited, no control group was used.

Shutz and Allen (1966), in a study to determine possible attitude changes among 71 persons of widely varied backgrounds who participated in a two-week Western Training Laboratory sensitivity program, used the Fundamental Interpersonal Relations Orientation - Behavior (FIRO-B) questionnaire as a form of measurement. A control group of thirty University of California education students was used. The questionnaire was administered before training, immediately after training, and by mail six months after training. Correlations between pre- and posttest scores for the various FIRO-B scales indicated that the training induced greater changes in the attitudes measured. Most change was indicated between the pretest and six-month posttest for the t-group participants. Shutz and Allen did not report the specific nature of direction of the changes occurring on the various FIRO-B scales.

Dunnette (1969), hypothesised that t-group participants learn to know each other more as individuals rather than stereotypes; that they learn to differentiate more fully among other persons. Sixty-five University of Minnesota students and trainers participating in six-

week t-groups were used as subjects. A same number of students and trainers were used as a control group. A computer developed empathy inventory was used as a means of measurement. The inventory was administered before and after the t-group training to both experimental and control groups. The results were statistically significant and indicated that experimental groups showed the highest incidence of interpersonal interaction and showed the greatest ability to differentiate between persons. Control groups showed the least ability to differentiate.

B. Studies Which Do Not Support the Theory that Attitudes Toward Self and Others Change as a Result of T-Group Participation

Gassner, Gold, and Snadowsky (1964), in their study of the perceptual effects of t-group training, used groups of 45-50 undergraduate students at CCNY as subjects in three experiments. Control groups of 25-30 students were also used. The Hill's Index of Adjustment and Values, which is a checklist of 40 descriptive adjectives was used as a measure of change. The test was administered before and after training to both control and experimental groups. The test seeks descriptions of (1) "This is most characteristic of me", (b) "I would like this to be most characteristic of me", and (c) "Most CCNY students my age would like this to be characteristic of them". Results showed that subjects changed in the direction of less discrepancy between real and ideal self and also tended to see themselves as being more similar to the average student. However, the control groups showed similar changes, and there were no significant differences between control and experimental groups on the post-measures.

Lohman, Zenger, and Weschler (1959), conducted a study to determine whether changes occur in participants self-perceptions and their perception of trainers during a sensitivity training experience. The Gordon Personal Profile, designed to measure five aspects of personality, was administered to sixty-five students at UCLA before and after their participation in semester-long courses using t-groups. The results indicated that there was no change in the students' self-perception. There was a slight increase in the accuracy of the students' prediction of the trainers' responses. No control group was used and differences in trainers' strategies were not accounted for.

Kernan (1964), in a study to determine possible attitude changes as a result of t-group training, used the Leadership Opinion Questionnaire (LOQ), as a form of measurement. The test was administered before and after a three day laboratory-training program. The experimental group consisted of 40 engineering supervisors who participated in the three day laboratory-training program. A control group of 20 engineering supervisors was used. Kernan found no significant before-after differences in the test results for either group.

Kassarjian (1965), attempted to determine whether there is a shift toward inner- or other- direction after an expensive sensitivity training experience. The experimental group consisted of 125 day school and night school students at the University of California, Los Angeles, taking a regular ten week sensitivity training program. A control group of 55 persons similar to those in the t-groups was used. His criterion measure was the I-O Social Preference Scale consisting of a 36-item forced-choice inventory. Kassarjian found no significant

changes or differences between the experimental and control groups.

In conclusion to the studies on t-groups and attitude change, it seems fair to say that there are few, good, studies supporting attitude change as a result of t-group participation. For example, of the five studies cited as supporting attitude change, only two used control groups. Control groups are necessary for sound scientific research. And then, of course, there are what seem to be sound studies, indicating that attitudes may not change as a result of t-group participation. The picture seems confusing. However, there is evidence that attitudes can change as a result of t-group participation as two of the better conducted studies by Shutz and Allen (1966) and Dunnette (1969) indicate.

Hypotheses

In the following chapters an attempt will be made to measure attitude change as a result of t-group participation. On the basis of the review of literature on attitude change and t-group participation, and the t-group learning model the following hypotheses will be tested:

(1) That t-group participation will result in attitude change toward self and others on the part of the participants.

(2) That the attitude change toward self and others will be in the direction of greater acceptance of self and others.

It is hoped that this study will add further knowledge to the now scarce and inconclusive studies on attitude change as a result of t-group participation. Furthermore, very few studies have specifically concentrated on attitude change toward self and others which is an important goal of t-group training. It is also hoped that by the use

of a control group this study will be more conclusive than many of the previous studies which did not use a control group.

CHAPTER III

METHODOLOGY

Measurement of Attitudes

The most widely used and carefully designed measurement of attitudes is the attitude scale (Krech, Crutchfield, and Ballachey, 1962, p. 147). Most attitude scales are concerned with the measurement of valence, that is, the measurement of the degree of favorability or unfavorability toward the attitude object in question. The attitude object is presented in the scale in the form of a statement or item. The individual's pattern of responses toward the statements or items in the scale, provides a way of inferring something about his attitude.

Scales differ in type, "but in every case their objective is identical: to assign an individual a numerical position on a continuum, a position which indicates, ... the valence of his attitude toward a particular object" (Krech, Crutchfield, and Ballachey, 1962, p.147). It will not be the purpose of this study to review the various types of attitude scales but rather to review the Likert (1932) type of scale used in this study.³

The Likert (1932) scale allows subjects to place themselves on an attitude continuum for each statement or item in the scale considered by the experimenter to relate to the object in question. The continuum usually has five categories of responses running from strongly agree, agree, uncertain, disagree and strongly disagree. (The terms "agree"

³For various types of attitude scales, see, for example, Krech, Crutchfield, and Ballachey, (1962), Shaw and Wright (1967), and Oppenheim (1966).

and "disagree" are used here only as examples of responses. Other terms, for example, "approve" - "disapprove" or "always true" - "not at all true" could also be used). The five responses are given weights of 5, 4, 3, 2, and 1 respectively for scoring purposes for positively worded items. The scoring is reversed for negatively worded items. More complex scoring methods have been shown to possess no advantage (Oppenheim, 1966, p. 133). The total score for each individual is determined by summing up his responses on all items.

The score does not have absolute meaning. The score determined by a Likert scale can only be interpreted in relation to other scores in the sample. In the case of a "before treatment" and "after treatment" test, where the same scale is used, only the differences in scores have meaning.

The usefulness of a particular scale depends upon a minimum of two properties. The scale must be reliable, that is, a scale must yield consistent scores when the attitude is measured a number of times and it must be valid, that is, the scale must measure what it is supposed to measure (Shaw and Wright, 1967, p. 16).

The Attitude Questionnaire

The attitude questionnaire used in this study, is one developed by Berger (1952, see Appendix A). Berger's original study, was an attempt to determine the relationship between expressed acceptance of self and expressed acceptance of others. One of his objectives in his study was "to develop a group instrument for the measurement of self-acceptance and the acceptance of others." (Berger, 1952, p. 778).

Shaw and Wright (1967, p. 433) who collected an extensive number of attitude scales made the following comment about the Berger scale on acceptance of self and others: "This is the most carefully developed scale to measure attitude toward self that we found in the literature." On the basis of the Shaw and Wright evaluation, and on the basis of what seemed to be a valid test for this empirical study, the Berger scale was chosen to measure attitudes toward self and others.

In developing the scale for the measurement of acceptance of self and others, Berger used a theoretical definition of self-acceptance and acceptance of others as a guide. The theoretical definition was developed from a survey of literature of self-acceptance and acceptance of others. Berger (1952, pp. 778-779) defined the self accepting person as one who:

1. Relies primarily upon internalized values and standards rather than on external pressure as a guide for his behavior.
2. Has faith in his capacity to cope with life.
3. Assumes responsibility for and accepts the consequences of his own behavior.
4. Accepts praise or criticism from others objectively.
5. Does not attempt to deny or distort any feelings, motives, limitations, abilities, or favorable qualities which he sees in himself, but rather accepts all without self-condemnation.
6. Considers himself a person of worth on an equal plane with other persons.
7. Does not expect others to reject him whether he gives them any reason to reject him or not.
8. Does not regard himself as totally different from others, "queer", or generally abnormal in his reactions.
9. Is not shy or self-conscious.

The person who is accepting of others is one who:

1. Does not reject, hate, or pass judgment against other persons when their behavior or standards seem to him to be contradictory to his own.
2. Does not attempt to dominate others.
3. Does not attempt to assume responsibility for others.
4. Does not deny the worth of others or their equality as persons with him. This does not imply equality in regard to specific achieve-

ments. He feels neither above nor below the people he meets.

5. Shows a desire to serve others.

6. Takes an active interest in others and shows a desire to create mutually satisfactory relations with them.

7. In attempting to advance his own welfare, he is careful not to infringe on the rights of others.

Berger's preliminary scale consisted of 47 statements on self-acceptance and 40 on acceptance of others. The Likert procedure of measurement was used. Scores for any item ranged from one to five. A response received a score of five if the individual chose "true of myself" indicating a high acceptance of self or others. The response "mostly true of myself" received a score of four for that item, with three, two, and one representing lesser degrees of acceptance of self and others. When the response "true of myself" indicated low acceptance of self and other, the response received a score of one. "Mostly true of myself" received a score of two, and three, two, and one received scores of three, four, and five respectively (Berger, 1952, p. 779). In other words, both positively and negatively worded statements were used with the scoring procedure reversed in the negatively worded statements.

The preliminary scale was administered to 200 students in first-year sociology or psychology courses. Their ages ranged from 17 to 45 with 90 per cent of them in the 17 to 30 age group.

For an item analysis, the top and bottom 25 per cent of the total scores were selected for each item. Thus there were 50 in each criterion group. The differences between the mean scores of these criterion groups was used as an index of discriminating power of the item.

Out of the original pool of 47 statements of self-acceptance and 40 statements on acceptance of others, 36 items were selected for the

self-acceptance scale and 28 for the acceptance of others scale. The selection of items was made on the basis of "the appropriateness of the items to the element of the definition and discriminating ability".

Reliability

Five groups were used, ranging in size from 18 to 183, to determine matched-half reliabilities. Matched-half reliabilities were reported to be .894 or better for the self-acceptance scale for all but one group, which was .746. Reliabilities for the acceptance of others scale ranged from .776 to .884. The Spearman-Brown formula was used to estimate reliability. (Berger, 1952, pp. 779-780).

Validity

Three estimates of validity were obtained for the scales. (Berger, 1952, p. 780). One consisted of having a group of 20 write freely about their attitudes toward themselves and another group of 20 write freely about their attitudes toward others. Both groups used the elements of the definitions as a guide. The subjects were also asked to complete the scale. The paragraphs were then rated by four judges and the mean ratings correlated, by means of the Pearson product-moment correlation, with the corresponding scale scores. The correlation was .897 for self-acceptance and .727 for acceptance of others.

The second approach to validity involved comparisons between different groups. A group of stutters ($N= 36$), who were expected on both an a priori and an empirical basis to score lower on self-acceptance, were compared with a group of nonstutterers, matched for age and sex. The

stutterers had lower mean scores than nonstutterers ($p.<.06$) on the self-acceptance scale.

For the acceptance of others scale, a group of prisoners was compared with a group of college students, matched for age, sex, and race. A priori considerations and some empirical evidence led to the expectation that prisoners would score lower on the acceptance of others scale. As expected, the prisoners scored lower on the acceptance of others scale than students. ($p.$ about .02). Empirical evidence also suggested that prisoners would score lower on self-acceptance as well. The difference between the groups on this variable was significant at better than the .01 level.

In the final approach to validity, members of a speech rehabilitation group ($N= 7$) were rated for self-acceptance by clinical assistants. This score correlated .59 with the self-acceptance score, which was not significantly higher than might have been obtained by chance. This test, then, did not support other evidence of validity. However, the small number of cases and the probable unreliability of ratings by the clinical assistants raise some question about this estimate of validity.

Sample and Data Collection

Sample

The experimental sample for this study consisted of a total of twenty-five, out of a possible total of thirty, first year psychology students at the University of Alberta who volunteered to participate in t-group training. Each of the total of twenty-five students participated in one of three different t-groups.

TABLE 3.1

SAMPLE

	Total Number	Male	Female	Age Mean	Age Range
Experimental					
Group 1	10	7	3	19.4	18-24
Group 2	7	5	2	23.3	18-29
Group 3	8	7	1	23.9	18-39
Total Experimental	25	19	6	21.6	18-39
Control	13	11	2	23.6	20-43

Each t-group met for two consecutive days, at different times over a three week period.

A group of thirteen volunteer students in a third year organizational behavior class at the University of Alberta, was used as a control group.

The ages of the experimental group (19 males and 6 females) ranged from 18 to 39 years with a mean age of 21.6 years. The ages of the control group (11 males and 2 females) ranged from 20 to 43 years with a mean age of 23.6 years. (See Table 3.1).

Data Collection

The Berger Scale (Berger, 1952, see Appendix A) was administered to each of the three t-groups at the very beginning of the first day of their two day meeting. Two trainers were available to the three groups.

One of the trainers participated in groups one and two only, the other participated in group three only. The trainers administered the scale to their respective groups. Very little instruction for the administering of the scale was given to the trainers. Each trainer introduced the scale to their respective t-group in the way they deemed best. The scale, as administered prior to the start of the t-group process was labeled the "before" test.

Immediately after the two day t-group meeting the same scale was administered to the t-group again and labeled the "after" test.

Similarly, the "before" and "after" test was administered to the control group by one of their university instructors.

Participation in completing the attitude questionnaire was voluntary. Out of the total of thirty t-group participants five did not complete both the before and after test and/or did not complete all items. Only those respondents, in the experimental groups and control group, who completed all scale items in both the "before" and "after" test, were included in the sample for this study.

CHAPTER IV

ANALYSIS AND RESULTS OF THE DATA

To facilitate compiling and partially analyzing the data, the Statistical Package for the Social Sciences (SPSS) (Nie, Bent, and Hull, 1970) program was used on the IBM 360 computer. The SPSS program compiled the total score and statistical analysis for each individual and group as obtained on the "before" and "after" test of the scale. The information was obtained for the sub scales of acceptance of self and acceptance of others as well as for the total scale. (See Appendix B for more group detail of the questionnaire results).

Statistical Tests

The basic statistical test used to analyse the results of the data for significance of change was the t test. Some researchers⁴ argue that data obtained in social science research does not meet the conditions necessary for a parametric test such as a t-test. It is suggested by these researchers that nonparametric tests, where the conditions for use are not as stringent, should be used in social science research.

However, not all researchers agree on the relative applicability of parametric and nonparametric statistical tests. For example, Borg (1965, p. 163), Ferguson (1959 pp. 15-16), and Cockrin (1947, p. 38) make a strong case for the use of parametric statistics even when the research data does not meet the underlying assumptions.

⁴ See for example, Siegel (1956, p. 19) who lists the conditions which must be satisfied in order to make the t-test meaningful.

Therefore, on the basis of the arguments for the use of parametric statistical tests in social science research, and on the basis of its general usage and availability, the t-test will be used to test for significance of attitude change. Some non-parametric statistical tests were used as well but need little justification for social science research.

Analysis and Results

In investigating hypothesis (1): That t-group participation will result in attitude change toward self and others on the part of the participants, the concern was not with direction of change but rather with determining whether there was any significant difference in absolute change between the experimental groups and the control group as determined by the "before" and "after" test on the Berger scale.

The t-test for testing the differences between two means was the statistical test used in attempting to determine differences in absolute change between the experimental groups and the control group.

The means, variances, and degrees of freedom were required for the computations and were obtained from formulas as given in Walpole (1968). Tables 4.1 and 4.2 summarizes the results of the computations.

Using a 90% confidence interval, the means of absolute change in the experimental groups as compared to the control group, are significantly different for experimental groups one and two and for the combined experimental groups for the total scale and sub scales of acceptance of self and acceptance of others (p ranging from .005 to .10). Experimental group three did not show any significant change within the

TABLE 4.1
ABSOLUTE CHANGE AND VARIANCE

Scale	Group	Total Absolute Change	Mean Absolute Change	Variance
Total Scale	Total Experimental	523.00	20.92	355.76
	Group one	247.00	24.70	688.41
	Group two	175.00	25.00	148.87
	Group three	101.00	12.63	19.73
	Control	133.00	10.23	35.41
Sub Scale: Acceptance of Self	Total Experimental	388.00	15.52	208.89
	Group one	182.00	18.20	434.96
	Group two	123.00	15.57	61.95
	Group three	83.00	10.83	15.73
	Control	83.00	6.38	20.23
Sub Scale: Acceptance of others	Total Experimental	197.00	7.88	45.94
	Group one	95.00	9.50	58.65
	Group two	64.00	9.14	41.84
	Group three	38.00	4.75	19.19
	Control	68.00	5.23	9.10

TABLE 4.2
T TEST RESULTS
MEAN ABSOLUTE CHANGE
FOR EXPERIMENTAL GROUPS COMPARED TO CONTROL GROUP

Scale	Group	d.f.	T	P
Total Scale	Total Experimental	32	2.59	.005
	Group one	10	1.71	.05
	Group two	8	3.03	.01
	Group three	19	.46	.30
Sub Scale: Acceptance of self	Total Experimental	33	2.90	.005
	Group one	10	1.76	.05
	Group two	8	3.45	.005
	Group three	16	2.13	.025
Sub Scale: Acceptance of others	Total Experimental	36	1.61	.05
	Group one	11	1.67	.05
	Group two	7	1.52	.10
	Group three	11	.273	.40

(Probability statistics were obtained from Kenney and Keeping, 1954, Table II, pp. 322-323).

confidence interval for the total scale ($p = .30$) and for the sub scale acceptance of others ($p = .40$). However, experimental group three did show significant change within the confidence interval for the sub scale acceptance of self ($p = .025$).

In examining hypothesis (2): That the attitude change toward self and others will be in the direction of greater acceptance of self and others, the t-test for testing differences of means was again used. In attempting to determine direction of change, the difference of means between the "before" and "after" test was tested for significance of change. None of the findings using the t-test to determine direction of change were considered significant for any of the groups on the total scale and sub scales. Probabilities ranged from .25 to .45.

An examination of Table 4.3 shows that the differences in means between the "before" test and "after" test were not relatively great.

Table 4.4 shows the direction and magnitude of change for the various groups tested. An examination of Table 4.4 reveals that change occurred in both a negative and positive direction for all groups with relatively little difference between the magnitude of positive change and negative change. In other words, negative changes tended to cancel out positive changes resulting in low mean changes.

Several nonparametric tests were used to test for significance of change between the "before" and "after" test, namely: The Median Test for differences in central tendency (Siegel, 1956, p. 111); The McNemar Test to test for significance of changes (Siegel, 1956, p. 63); The Sign Test to test for differences in conditions (Siegel, 1956, p. 68); The Friedman Two-Way Analysis of Variance by Ranks Test to test signi-

TABLE 4.3

DIFFERENCES OF MEANS BETWEEN "BEFORE" AND "AFTER" TEST

Scale	Group	"Before" Mean	"After" Mean	Difference
Total Scale	Total Experimental	234.480	233.160	-1.320
	Group one	226.500	232.800	6.300
	Group two	244.429	231.714	-12.715
	Group three	235.750	234.878	-.872
	Control	246.385	248.462	2.077
<hr/>				
Sub Scale: Acceptance of Self	Total Experimental	132.280	130.440	-1.840
	Group one	128.000	130.400	2.400
	Group two	138.429	128.000	-10.429
	Group three	132.250	132.625	.375
	Control	146.538	147.692	1.154
<hr/>				
Sub Scale: Acceptance of Others	Total Experimental	102.200	102.720	.520
	Group one	98.500	102.400	3.900
	Group two	106.000	103.714	-2.286
	Group three	103.500	102.250	-1.250
	Control	99.846	100.769	.923

TABLE 4.4
DIRECTION AND MAGNITUDE OF CHANGE
BETWEEN THE "BEFORE" AND "AFTER" TEST

Scale	Group	No. of Neg. Changes	No. of Pos. Changes	Total Neg. Changes	Total Pos. Changes
Total Scale	Total Experimental	12	13	278	245
	Group one	3	7	92	155
	Group two	5	2	132	43
	Group three	4	4	54	47
	Control	4	9	53	80
Sub Scale: Acceptance of Self	Total Experimental	11	13*	217	171
	Group one	2	7*	79	103
	Group two	5	2	98	25
	Group three	4	4	40	43
	Control	4	8*	34	49
Sub Scale: Acceptance of Others	Total Experimental	11	14	92	105
	Group one	3	7	28	67
	Group two	4	3	40	24
	Group three	4	4	24	14
Control	Control	6	6*	28	40

* Indicates one individual in this group showed no change.

fificance of difference in variance (Siegel, 1956, p. 166); and the Wilcoxon Matched-Pairs Signed-Ranks Test to test for direction and significance of change (Siegel, 1956, p. 75). The non-parametric tests were used to substantiate the results of the more powerful t-test. None of the nonparametric tests indicated any statistical change between the "before" and "after" test which could be considered significant.

Originally it was hoped that some of the demographic variables as obtained from the questionnaire (see Appendix A) would help to statistically explain the type of change that occurred. However, after compiling the data for the demographic variables it was found that very few demographic differences existed among the individuals tested. At least, it was felt that the demographic differences were not great enough to statistically explain differences in change. The relatively small sample number in each of the experimental groups as well as the relative homogeneity of the groups tested (that is, university students of similar background and approximately of the same age) could account for the lack of differences in demographic variables.

High scores and low scores on the "before" test were compared to the scores obtained by the same individuals on the "after" test. The purpose for this comparison was to determine if there was a significant difference in direction of change for initial high scores as compared to initial low scorers. No significant difference was found. Initial high scorers and initial low scores were equally as likely to change in either a positive or negative direction.

CHAPTER V

CONCLUSIONS AND LIMITATIONS OF THE STUDY

The task of this chapter will be, first, to draw some conclusions about t-groups and attitude changes toward self and others on the basis of this study, and secondly, to attempt to use the theoretical background to explain the type of change that occurred and to point out some of the limitations of this study and make suggestions for further research.

Conclusions

On the basis of this empirical study, the following conclusions are drawn:

- (1) The t-group experience did produce statistically reliable attitude change for experimental groups one and two and for the combined total experimental groups.
- (2) Attitude change toward self and others as a result of the t-group experience, occurred in both a positive and negative direction.
- (3) The attitude change did not occur in either a statistically reliable negative or positive direction and therefore, on the basis of this study, no predictions can be made as to the direction of attitude change toward self and others as a result of t-group participation.

Specifically, the conclusions can best be summarized by stating that t-group participation resulted in attitude change toward self and others on the part of the participants but the change did not occur in either a predictable positive or negative direction. Which means that on the basis of this study, the best we can say is that attitude change

toward self and others does occur as a result of t-group participation but we cannot predict whether the attitude change will be in a positive or negative direction for any one particular participant. We cannot even predict the average or majority change to be in either a negative or positive direction. We can therefore conclude on the basis of this study, that the t-group goal of greater acceptance of self and others is not necessarily realized by all or even a majority of t-group participants.

However, before any firm conclusions are drawn, certain limitations which may have affected the outcome of this study should be pointed out. In the following paragraphs some of these limitations will be pointed out.

Limitations of the Study

One of the limitations of this study may have been the respondents' attitude toward the questionnaire. Direct feedback from the respondents in experimental groups one and two revealed a certain amount of hostility towards the type of questions on the questionnaire and towards the length (64 items) of the questionnaire. Particularly when respondents were asked to complete the "after" test, many felt that some of the items were irrelevant to the t-group process and rewriting the test was too time consuming. Because of the hostility displayed, some of the responses may have been biased in the sense that respondents were not as honest or as careful as they should have been in answering the items on the questionnaire. It is interesting to note that most of the hostility was displayed by experimental groups one and two - the

two groups that showed the most change.

It may have been worthwhile to retest the participants again after a time laps of a week or more after the t-group experience. The responses may then have been more indicative of attitude change rather than what may have been an expression of frustrated feelings immediately after the t-group experience. There is some evidence to support the hypothesis that change after a t-group experience increases in a positive direction after a period of time. Schutz and Allen (1966, p. 265), cited previously in this study, concluded "that change after a period of six months is in a positive direction with respect to the participants' self-concept and behavior and feelings toward other people ..." after they tested for the effects of a t-group laboratory on interpersonal behavior. Harrison (1966), also cited previously in this study, after measuring for changes in concept preference in interpersonal perception as a result of t-group training, found no significant short term (three weeks) difference. But after retesting three months after training, Harrison found significant differences between the pretest and three month posttest. Unfortunately, for this study, neither time nor resources permitted an attempt to retest subject some time after their t-group experience.

Another limitation may have been the relatively short duration of the t-group training time. Each t-group met for only a two-day period which may have been considered as only an introduction to t-groups by some of the participants. It is possible that the two-day meeting succeeded in only arousing ego-defensive attitudes of some of the participants. The two-day meeting may not have allowed them to arrive

at the stage where they could completely trust the t-group method and as a result, those individuals with strong ego-defensive attitudes who still saw the t-group as threatening, may have responded in a negative direction on the attitude questionnaire. Kernan (1964), in a study designed to test personality changes induced by t-groups, similarly found no mean changes in attitudes and similarly concluded that his findings may be due to the fact that such personal changes may not result from short periods (in his study, three days) of training.

One of the difficult variables to control or test in a t-group study is the possible effects of differences in trainer personality or style. There may be some evidence on the basis of this study to suggest that trainers may have had an effect on the t-group training outcome. Experimental groups one and two, who had the same trainer, showed the greatest change, whereas experimental group three, who had a different trainer, showed no statistically significant change on the total scale. However, differences in trainer style or personality was not tested in this study and therefore it is not possible to conclude that the differences in outcome were the result of the possible differences in trainers.

Another limitation of this study was the lack of information available for individual differences of the participants. Campbell and Dunnette (1968, p. 99) state that "the crucial question has been whether or not the training makes a difference for the group as a whole. Such a generalized interpretation may cover up important interactions between individual differences and training methods. Given a particular kind of outcome, certain kinds of people may benefit

from t-group training while others may actually be harmed." In another section of their article on the effectiveness of t-group experience, Campbell and Dunnette (1968, p. 103) go on to say "Initially, most current researchers seem to act as if laboratory training should have similar effects for everyone. However, this seems hardly likely ..."

Individual differences, other than demographic differences tested for, may certainly account for the fact that some individuals responded in a negative direction and others responded in a positive direction after t-group training.

Suggestions for Futher Research

On the basis of the limitations encountered in this study, the following recommendations are made for futher research on attitude change as a result of t-group participation:

- (1) A short attitude questionnaire should be used. This recommendation is made on the basis of the respondents negative attitude towards the length of the Berger questionnaire. The Berger questionnaire itself could be shortened by selecting certain items particularly relevant to the t-group process.
- (2) In order to account for individual differences, a short test designed to measure personality differences should be used. The results of the test could be used to correlate with attitude change scores.
- (3) Long term effects of t-group learning should be tested by testing participants some time after their t-group experience.
- (4) T-groups of different length of duration should be tested to test for the effect of time spent in a t-group on attitude change.

(5) Differences in trainers' personalities and methods should be used to determine the possible effect these have on t-group outcomes.

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APPENDIX A

UNIVERSITY OF ALBERTA

FACULTY OF BUSINESS ADMINISTRATION AND COMMERCE

Name: _____.

Please complete, or circle the appropriate number for each question -

1. Sex
 1. Male
 2. Female
2. Age at last birthday _____.
3. Marital status
 1. single
 2. married
 3. divorced
 4. widowed
 5. separated
4. (a) How many older brothers and/or sisters do you have _____.
(b) How many younger brothers and/or sisters do you have _____.
5. Check the following types of organizations to which you belong:
 1. Fraternity _____
 2. Club _____
 3. Church group _____
 4. Sports team _____
 5. Other (specify) _____
 6. None _____

6. Check where you currently live -

1. with your parent(s) _____
2. in residence _____
3. shared apartment _____
4. boarding house _____
5. by yourself _____
6. other (specify) _____

7. Check where your family (father's side) originally came from -

1. British Isles _____
2. Western Europe (Holland, Germany, France, Austria, Switzerland) _____
3. Southern Europe (Italy, Greece, Spain, Portugal)

4. Northern Europe
(Scandanavian countries)

5. Eastern Europe (Slavic countries)

6. Middle East _____
7. Far East _____
8. Other (specify) _____

8. Was your father born in North America?

1. Yes
2. No

9. Check your family's religious or church preference?

1. Roman Catholic _____
2. Fundamentalist Protestant
(Baptist, Pentecostal,
etc.)

3. Other Protestant
(United, Lutheran,
Anglican)

4. Jewish

5. Greek Orthodox

6. Other (specify) _____

10. Check your father's occupation?

1. White collar (managerial,
sales technical, professional) _____.
2. Blue collar (skilled labour,
semi-skilled, service, etc.) _____.
3. Other (specify) _____.

This is a study of some of your attitudes. Of course, there is no right answer for any statement. The best answer is what you feel is true of yourself.

You are to respond to each question by circling the number to the answer which applies to you.

- OF MYSELF -

	Not at All True	Slightly True	About Half-way True	Mostly True	True
	(A)	(B)	(C)	(D)	(E)
1. I'd like it if I could find someone who would tell me how to solve my personal problems.	1	2	3	4	5
2. I don't question my worth as a person, even if I think others do.	1	2	3	4	5
3. I can be comfortable with all varieties of people - from the highest to the lowest.	1	2	3	4	5
4. I can become so absorbed in the work I'm doing that it doesn't bother me not to have any intimate friends.	1	2	3	4	5
5. I don't approve of spending time and energy in doing things for other people. I believe in looking to my family and myself more and letting others shift for themselves.	1	2	3	4	5
6. When people say nice things about me, I find it difficult to believe they really mean it. I think maybe they're kidding me or just aren't being sincere.	1	2	3	4	5
7. If there is any criticism or anyone says anything about me, I just can't take it.	1	2	3	4	5

	(A)	(B)	(C)	(D)	(E)
8. I don't say much at social affairs because I'm afraid that people will criticize me or laugh it I say the wrong thing.	1	2	3	4	5
9. I realize that I'm not living very effectively but I just don't believe that I've got it in me to use my energies in better ways.	1	2	3	4	5
10. I don't approve of doing favors for people. If you're too agreeable they'll take advantage of you.	1	2	3	4	5
11. I look on most of the feelings and impulses I have toward people as being quite natural and acceptable.	1	2	3	4	5
12. Something inside me just won't let me be satisfied with any job I've done - if it turns out well, I get a very smug feeling that this is beneath me, I shouldn't be satisfied with this, this isn't a fair test.	1	2	3	4	5
13. I feel different from other people. I'd like to have the feeling of security that comes from knowing I'm not too different from others.	1	2	3	4	5
14. I'm afraid for people that I like to find out what I'm really like, for fear they'd be disappointed in me.	1	2	3	4	5
15. I am frequently bothered by feelings of inferiority.	1	2	3	4	5
16. Because of other people, I haven't been able to achieve as much as I should have.	1	2	3	4	5
17. I am quite shy and self-conscious in social situations.	1	2	3	4	5
18. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.	1	2	3	4	5

	(A)	(B)	(C)	(D)	(E)
19. I usually ignore the feelings of others when I'm accomplishing some important end.	1	2	3	4	5
20. I seem to have a real inner strength in handling things. I'm on a pretty solid foundation and it makes me pretty sure of myself.	1	2	3	4	5
21. There's no sense in compromising. When people have values I don't like, I just don't care to have much to do with them.	1	2	3	4	5
22. The person you marry may not be perfect, but I believe in trying to get him (or her) to change along desirable lines.	1	2	3	4	5
23. I see no objection to stepping on other people's toes a little if it'll help get me what I want in life.	1	2	3	4	5
24. I feel self-conscious when I'm with people who have a superior position to mine in business or at school.	1	2	3	4	5
25. I try to get people to do what I want them to do, in one way or another.	1	2	3	4	5
26. I often tell people what they should do when they're having trouble in making a decision.	1	2	3	4	5
27. I enjoy myself most when I'm alone, away from other people.	1	2	3	4	5
28. I think I'm neurotic or something.	1	2	3	4	5
29. I feel neither above nor below the people I meet.	1	2	3	4	5
30. Sometimes people misunderstand me when I try to keep them from making mistakes that could have an important effect on their lives.	1	2	3	4	5

	(A)	(B)	(C)	(D)	(E)
31. Very often I don't try to be friendly with people because I think they won't like me.	1	2	3	4	5
32. There are very few times when I compliment people for their talents of jobs they've done.	1	2	3	4	5
33. I enjoy doing little favors for people even if I don't know them well.	1	2	3	4	5
34. I feel that I'm a person of worth, on an equal plane with others.	1	2	3	4	5
35. I can't avoid feeling guilty about the way I feel toward certain people in my life.	1	2	3	4	5
36. I prefer to be alone rather than have close friendships with any of the people around me.	1	2	3	4	5
37. I'm not afraid of meeting new people. I feel that I'm a worthwhile person and there's no reason why they should dislike me.	1	2	3	4	5
38. I sort of only half-believe in myself.	1	2	3	4	5
39. I seldom worry about other people. I'm really pretty self-centered.	1	2	3	4	5
40. I'm very sensitive. People say things and I have a tendency to think they're criticizing me or insulting me in some way and later when I think of it, they may not have meant anything like that at all.	1	2	3	4	5
41. I think I have certain abilities and other people say so too, but I wonder if I'm not giving them an importance way beyond what they deserve.	1	2	3	4	5

	(A)	(B)	(C)	(D)	(E)
42. I feel confident that I can do something about the problems that may arise in the future.	1	2	3	4	5
43. I believe that people should get credit for their accomplishments, but I very seldom come across work that deserves praise.	1	2	3	4	5
44. When someone asks for advice about some personal problem, I'm most likely to say, "It's up to you to decide", rather than tell him what he should do.	1	2	3	4	5
45. I guess I put on a show to impress people. I know I'm not the person I pretend to be.	1	2	3	4	5
46. I feel that for the most part one has to fight his way through life. That means that people who stand in the way will be hurt.	1	2	3	4	5
47. I can't help feeling superior (or inferior) to most of the people I know.	1	2	3	4	5
48. I do not worry or condemn myself if other people pass judgment against me.	1	2	3	4	5
49. I don't hesitate to urge people to live by the same high set of values which I have for myself.	1	2	3	4	5
50. I can be friendly with people who do things which I consider wrong.	1	2	3	4	5
51. I don't feel very normal, but I want to feel normal.	1	2	3	4	5
52. When I'm in a group I usually don't say much for fear of saying the wrong thing.	1	2	3	4	5
53. I have a tendency to sidestep my problems.	1	2	3	4	5

	(A)	(B)	(C)	(D)	(E)
54. If people are weak and inefficient I'm inclined to take advantage of them. I believe you must be strong to achieve your goals.	1	2	3	4	5
55. I'm easily irritated by people who argue with me.	1	2	3	4	5
56. When I'm dealing with younger persons, I expect them to do what I tell them.	1	2	3	4	5
57. I don't see much point to doing things for others unless they can do you some good later on.	1	2	3	4	5
58. Even when people do think well of me, I feel sort of guilty because I know I must be fooling them - that if I were really to be myself, they wouldn't think well of me.	1	2	3	4	5
59. I feel that I'm on the same level as other people and that helps to establish good relations with them.	1	2	3	4	5
60. If someone I know is having difficulty in working things out for himself, I like to tell him what to do.	1	2	3	4	5
61. I feel that people are apt to react differently to me than they would normally react to other people.	1	2	3	4	5
62. I live too much by other people's standards.	1	2	3	4	5
63. When I have to address a group, I get self-conscious and have difficulty saying things well.	1	2	3	4	5
64. If I didn't always have such hard luck, I'd accomplish much more than I have.	1	2	3	4	5

QUESTIONNAIRE DATA

Scale	Total Experimental Groups	"Before" Test	"After" Test
Total Scale	Minimum Score	201.000	127.000
	Maximum Score	278.000	269.000
	Range	77.000	142.000
	Mean	234.480	233.160
	Median	230.625	236.000
	Standard Deviation	20.552	33.714
	Variance	422.375	1136.667
Sub Scale: Acceptance of Self	Minimum Score	103.000	60.000
	Maximum Score	169.000	156.000
	Range	66.000	96.000
	Mean	132.280	130.440
	Median	130.000	133.500
	Standard Deviation	17.043	23.899
	Variance	290.463	571.180
Sub Scale: Acceptance of Others	Minimum Score	82.000	67.000
	Maximum Score	119.000	116.000
	Range	37.000	49.000
	Mean	102.200	102.720
	Median	101.667	105.000
	Standard Deviation	9.197	12.130
	Variance	84.589	147.133

Scale	Experimental Group one	"Before" Test	"After" Test
Total Scale	Minimum Score	201.000	127.000
	Maximum Score	258.000	263.000
	Range	57.000	136.000
	Mean	226.500	232.800
	Median	216.500	244.000
	Standard Deviation	20.397	40.329
Sub Scale: Acceptance of Self	Variance	416.055	1626.410
	Minimum Score	103.000	60.000
	Maximum Score	153.000	155.000
	Range	50.000	95.000
	Mean	128.000	130.400
	Median	128.500	138.500
Sub Scale: Acceptance of Others	Standard Deviation	14.322	28.017
	Variance	205.111	784.938
	Minimum Score	82.000	67.000
	Maximum Score	115.000	116.000
	Range	33.000	49.000
	Mean	98.500	102.400
	Median	99.000	105.500
	Standard Deviation	10.244	13.343
	Variance	104.944	178.049

Scale	Experimental Group two	"Before" Test	"After" Test
Total Scale	Minimum Score	207.000	179.000
	Maximum Score	278.000	269.000
	Range	71.000	90.000
	Mean	244.429	231.714
	Median	242.750	246.000
	Standard Deviation	25.344	43.142
	Variance	642.302	1861.250
Sub Scale: Acceptance of Self	Minimum Score	105.000	88.000
	Maximum Score	169.000	156.000
	Range	64.000	68.000
	Mean	138.429	128.000
	Median	137.000	138.000
	Standard Deviation	22.022	31.011
	Variance	484.958	961.667
Sub Scale: Acceptance of Others	Minimum Score	99.000	75.000
	Maximum Score	114.000	115.000
	Range	15.000	40.000
	Mean	106.000	103.714
	Median	106.000	109.750
	Standard Deviation	5.099	14.671
	Variance	26.000	215.250

Scale	Experimental Group three	"Before" Test	"After" Test
Total Scale	Minimum Score	220.000	209.000
	Maximum Score	254.000	260.000
	Range	34.000	51.000
	Mean	235.750	234.875
	Median	234.500	234.250
	Standard Deviation	13.069	14.317
	Variance	170.786	204.982
Sub Scale: Acceptance of Self	Minimum Score	103.000	119.000
	Maximum Score	155.000	148.000
	Range	52.000	29.000
	Mean	132.250	132.625
	Median	135.000	131.500
	Standard Deviation	15.890	10.649
	Variance	252.500	113.411
Sub Scale: Acceptance of Others	Minimum Score	90.000	90.000
	Maximum Score	119.000	115.000
	Range	29.000	25.000
	Mean	103.500	102.250
	Median	101.500	101.500
	Standard Deviation	9.842	9.486
	Variance	96.875	89.643

Scale	Control Group	"Before" Test	"After" Test
Total Scale	Minimum Score	217.000	215.000
	Maximum Score	279.000	280.000
	Range	62.000	65.000
	Mean	246.385	248.462
	Median	244.750	244.750
	Standard Deviation	18.505	20.907
	Variance	342.427	437.109
Sub Scale: Acceptance of Self	Minimum Score	117.000	117.000
	Maximum Score	165.000	168.000
	Range	48.000	51.000
	Mean	146.538	147.692
	Median	151.250	149.500
	Standard Deviation	13.878	15.559
	Variance	192.609	242.068
Sub Scale: Acceptance of Others	Minimum Score	77.000	76.000
	Maximum Score	114.000	116.000
	Range	37.000	40.000
	Mean	99.846	100.769
	Median	102.500	99.250
	Standard Deviation	10.391	12.098
	Variance	107.979	146.365

